doc. 0076

Trip of 1895. doc. 0076

Buffalo, 18 mile creek, Le Roy, Port Colborne, Thorold, Dunnville, Hagersville, Toronto, Hamilton, Medford Alpena, Petoskey.

Harris at Wadsworth, Ohio

Williams
Medical Coll.
Virginia

Lantz used to cut marble
Buffalo Marble.
Williamsville. Erie Co.

Lantz 860 Main St.

Niagara Point west of Buffalo
Architecture and picturesque
Digitaria, Lepidodendron
and Calamites.
18 mile creek north branch
a fine waterfall, fine plants.
Spring Creek south of Buffalo
fine limestone rock.

63 Trinity Square
Townsend 7th 6 3/3
2

Amos H. Bennett
Sup. Buffalo Forge Co.
~~2785 Main St~~
Boarding 110 Franklin St.
North from 63, Tenaglia Court L.

Lewis J. Bennett
Res. Buffalo [illegible] St.

Elliston, Grace B. Mrs.
J. C. Rollinson (Letter)
Has Manhattan Hotel.

Hamilton finish in the stool with Jane of
C. J. Hill near Hotel Chard

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doc. 0076

Buffalo N. Y.

Dr. Julius Pohlman
382 Franklin strut.

Fred. K. Mixer
427 Delaware Ave.

Dr. Williams (Bacteriologist)
Medical College.

Le Roy, N. Y.

John Eyre,
Howell (quarry owner).
C. J. Hug (Farmer)

Guelph, Ont.

J. H. Panton.

Hamilton, Ont.

Col. Charles Cooke Grant, 293 Bay St. South.
A. E. Walker and ~~Mr. Trumbull~~.

Bedford, Ont.

Rev. Hector Currie.

Jaynesville Q
J. R. Smith, Oakland Co.
is a Gentleman acquainted with L. H.
Harris.

Petoskey Mich.
E. F. Boss. Cuts and publishes fruits
for sale.

Cincinnati
Campbell 49 Brookside Ave.

Hagersville, Ontario
A. N. Howard, Druggist

Port Colborne, Ontario
John C. McRae. Lives between
Lake Erie and Welland Canal.

Toronto
David Boyle, Canadian Dept.
Joseph Townsend 43 Trinity Square
Barrie, Canada.

Redford Ontario
Rev. Hector Currie
Presbyterian minister.
Geo Kirkalan
Store Keeper
Malcolm McKinnon
Section boss. Scotch.
R. J. Karney
School Teacher
R. MacKintosh
Tailor. Scotch

Time

New York	2 weeks.
Cayuga and Port Colborne	1 "
Hamilton	3 days
Guelph & Galt	7 "
Waddy	10 "
Michigan	2 weeks

8 weeks in all

New York.

"Along the road from Comstock's 8 m. from Buffalo to 18 mile creek. It is seen in the banks of 18 m. creek as well as upon the lake shore for one and a half miles above" (Hall.)

Along the lake shore from 18 m. creek to Hamburg and along the rail road. (Beecher).

At Le Roy the Corniferous extends both east and west for several miles. One of the quarry owners is related to Stowell. At Le Roy see John Egre.

Ontario.

Collect at the following places in about the order mentioned.

✓ Port Colborne (Ramas Farm)
✓ Bainfleet (Lot 6 con. 1).
Ridgeway
✓ Cayuga, De Cewville.
Hagersville
Hamilton
Guelph, Hespeler, Galt.

✓ Bidder. See Dirty water, Bartlett Mills near Arkona and South Williams.

Dundas. Thorold in the cutting of the Welland Canal for Clinton and Niagara fossils.

Guelph.

In the bed of the stream under the bridges on the Brock road; on the left bank on the side of the road; quarry ½ mile above near the right bank of the Speed. See J. St. Paxton.

Galt.

Quarries both above and below. Fossils better than at Guelph.

Hespeler.

This place is most fossiliferous than either the above localities. In a cutting on the Great Western Railway.

Michigan.

Thunder Bay Region.

Highest beds on Thunder Bay are on the south side of Partridge Point or on Squaw Bay. Here the Genesee also outcrops. The highest Hamilton beds have no fossils but the shale beds below on the north side of the point are full of good fossils, abounding in Bryozoa, Crinoids and Brachiopods.

Stony Point north of Partridge Point and south of Alpena has lower beds projecting but a few feet above the lake and are full of fossils.

Thunder Bay River. Along the south bank in Alpena in sections 28 and 20 the rocks are exposed. The highest beds have but few fossils, but the nodular limestone abounds in them. Exposure 20 to 25 feet.

North Alpena is built on a marshy level holding many fossils. Good exposures can be seen on the side of the first lake terrace. Continuing farther are quarries of Carter.

(on the road to Fay Lake)

At Mr. Phelps lime kiln, fossils abound in limestone. Better fossils are to be had at Mr. Broadwell's in the race to his saw-mill on Thunder Bay River.

On the road leading to Trowbridge mill and cement kilns is a small hillock and near by in the grass is a long exposure of a rock full of fine fossils.

Several miles above Trowbridge the same strata appear under the bridge crossing the north branch of Thunder Bay River.

Sunday Lake at the west end has fossils.

Thunder Bay Island, east side has fossils in great variety and abundance. South of the island fossils can be seen in the shale.

Middle Island has the lowest strata in the Thunder Bay Region along the eastern shore. These are best exposed on the north side. Directly west of Middle Island on the side of a small creek flowing south eastward into Lake Huron about ½ mile from the lake extend a series of low hills for about one mile up stream.

Little Traverse Bay Region.

See Winchell description.

Rominger writes as follows: Petoskey

Follow down Bear Creek from the R.R. bridge to the Lake. One mile west of Bear creek on the lake are outcrops interrupted by the drift. Several other outcrops are met with in the next two or three miles.

3 miles east of the dock at Charlevoix are fossils. The last of the Hamilton is found near Norwood. Here are the highest beds of the section.

August 12-1895
Left Washington at 7.10 P. M.

August 13th 1895
and arrived in Buffalo N. Y at 12.15 P. M. At 2.50 started for 18mile creek the nearest station being Derby. At this place which is three miles west of 18mile creek Genesee shale outcrops and as far four miles east. Took a later train for Athol Springs which is east one mile of Hamburg on the Lake.

Aug. 14
Collected along the Lake front but found little until I entered a small creek just east of Hamburg on the Lake. The richest beds are just south of the Lake road. In this creek Another fossiliferous horizon occurs south about ½ mile

1 below the rail-road track.

Aug. 15-95

Collected along the rail-road track between Athol Springs and Hamburg on the Lake, and then in the creek near the last named place to the south of the track.

In the afternoon followed along the rail-road track west to Clover Bank but found nothing until a creek was followed north to the lake front just west of Clover Bank. At this place in a short interval can be seen nearly all the fossiliferous portion of the Hamilton.

Aug. 16.

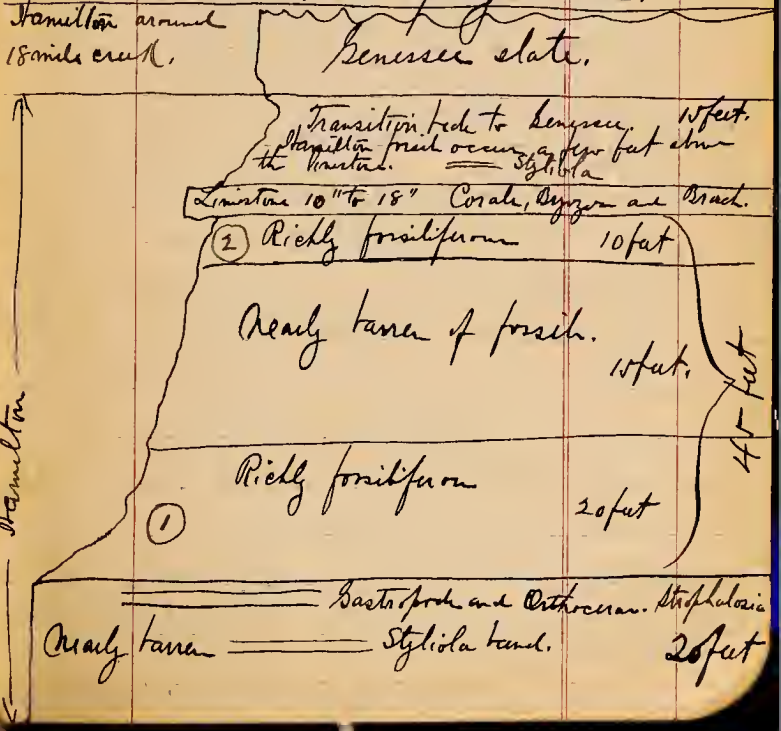
Collected along the lake front from north the creek last mentioned for two miles west ward. At about 1½ mile below Clover Bank there is bold cliff probably 60 feet high.

at the base of which many of the fossils from the upper horizons can be picked up. At the other upper Hamilton horizons Cystiphyllum and Hydrophyllum are seldom seen but here the former coral abounds and the latter is not rare.

Returning to the boarding house packed two boxes (one ended) by seven P. M. Hotel expenses $1.25

Aug 17 Shipped the boxes by L. S. & M. S. Took the 8 A.M. train for Buffalo. Called on Dr. Julius Pohlman who at present is not paying much attention to fossils. Directed me to collect coral at Williamsville near Buffalo. Also directed me to see Dr. Williams, a young bacteriologist at the Medical College. This gentleman said that Dinichthys and other fish remains

could be collected at Sturgeon Point which is about seven miles west of 18 mile creek. Calamites Lepidodendron and Sigillaria could be had in 18 mile creek about one mile up from where the creek forks in north branch and near Waterville. He also said that Hamilton fossils can be collected at Spring Brook.



The fossils found in (2) and not in (1) are Strophodonta demissa, Spirifer zigzag, Atrypa reticularis and A. aspera Rimoid, short and robust Spirifer medialis Otherwise all the fossils of (1) also seem to occur in (2).

To the restricted species of (2) should be added Cystiphyllum and Heliophyllum and Amplexus. Ambocoelia is particularly abundant in these beds.

The only known restricted species to zone (1) is Strophalosia truncata.

Dr. Pohlman thinks there are too many species of Eurypteroids and is convinced that Whitfield's scorpion is nothing but the Eusarcus scorpionis. He said that nothing has been done towards working out the mouth and dorsal structures since Hall's time.

In the afternoon visited Bennett's quarries where in 15 feet can be seen the Waterlime, Onondaga and Corniferous.

The top rock is used for building purposes and all or much of the soft dolomite is thrown away because of its soft nature. Much of the Catskill is also thrown away the compact blue layers only being used for cement of which they now turn out about 500 barrels per day but can make over 1000 barrels each day.

The Eurypteroids are not very abundant and it is understood that the men must turn in to the office all found. Some, however get away one of which I purchased for $50 a fair specimen showing the ventral anatomy. I found some Leperditia alta and probably the little Orthothetes of Hall.

It is said that the elder Bennett has the good Eurypteroids.

Aug. 18 Spent Sunday at Niagara Falls.

Aug. 19 Took the Main street car in Buffalo for the "city line" and then another trolly car to Williamsville. A short distance beyond the car line in Lauty and Young's quarry Corniferous corals abounded. Favosites in certain layers quite abundant and preserved as casts. I did not take more than a few study specimens. On the lowest layers of these quarries there are three thick layers with an abundance of corals but unfortunately all have suffered from pressure and are much flattened. I gathered all the good specimens seen in the limited time I possessed.

Returning to Buffalo found I could get a train for Le Roy at 6.05 P.M. where I arrived at 8.40 P.M. with the Williamsville corals.

Aug. 20. Started east 2½ miles beyond Le Roy for the Lowell quarries. These quarries are all surface diggings and fossils are

poor and not abundant. Purchased of Howell a number of Pelagophora, Cephalopoda, and Dictyonema. Later got another Dictyonema of another part. Our own collecting did not amount to much.

Aug. 26. Collected at 2nd place about 2½ miles north-west of Le Roy where I found an abundance of Favosites and Diplograptus. Cyathophylloids are also abundant attached to rock but it is no easy matter to secure many good ones even by resorting to etching. Found also a fair Cranoid. All other fossils are very rare and always attached to thick rocks which shatter to pieces in attempting to get them out. Have laid out probably enough to fill three barrels. The corals lay in the lower layers of the Howell quarry in the chert layers on the lower half of

the Campus.

Aug 22-[illegible]

Collected today in the same [illegible]. After visiting the Pompeian Room, in the Canadian, but found their usual stock [illegible] scarce and [illegible]

Saw quite a number [illegible] and Gilded Flicker but [illegible] did not take [illegible]. Found a number [illegible] cycle and [illegible] and Goldfinch.

[illegible] in the Stream [illegible] in color. This [illegible] in the [illegible] Pond [illegible] [illegible] [illegible] are common [illegible]

region. At Le Roy the shale is quite black while at the mile creek it is blue.

The Corniferous crinoids come in immediately above the Hamilton in clusters both round the stems & in the shale in some cases there is near a foot of the latter good specimens being found of Dendrocrinus, however the gold is usually in the coral.

Mr. Egre will send in collection in 1902 but inside of six days my collection has no value to the National Mus.

Aug. 23-

Collected on Mr. G. J. Hill's farm about five miles south of Le Roy and about one mile south of Asbury Chapel. On the small creek on Hill's farm the upper layers of the Hamilton are black and equivalent to

the Iggen at 18 mile creek below the thin limestone band. On Hill place this limestone is also present but there are several layers and with the intermediate shales for all 20 or three feet thick. Below the limestone occurs the coral horizon which is about four feet thick. Here the corals are far more abundant and better preserved, the mass consisting of a Diphyphyllum several species of Favosites some in very large masses, Michelinia and hundreds of Heliophyllum Halli and varietas. Brachiopods are scarce and those present are generally small specimen and single valves. Bryozoa are more abundant than at 18 mile creek.

M. C. J. Hill (P.O. Qd. Le Roy) will gather corals for the museum at 5/- per Hd. or at the rate 12½ ¢ per lbs. I asked him to put up for us one or two Hds.

He is also to take out of the "Falls" a large Favosites and box it to us.

During the day Engaged Mrs. Rogers to take me out to Mr. Hill's farm and in the evening he returned for me when I loaded big down to the full extent of the buggy.

Mr. Hills farm is not far from Pavilion which locality may be ascribed as the locality for these Hamilton corals.

Packed until 9 P. M.

Aug. 24-95

Boxed the Williamsville and Le Roy Corniferous and the Hamilton fossils into four boxes. After started out in the rain for the Corniferous corals near Mr. Holmes quarry which were packed into three large barrels, returning to Le Roy in the rain at noon

Shipped the 30th and four boxes by the N.Y. L.E. & W. R.R. Left in the evening left Le Roy for Rochester.

Aug 25-95

Reached the town Rochester. In the afternoon visited Rochester caves & found - Sonnenville.

Aug. 26-95

Visited the Rochester Natural History Establishment. Of American fossils did not see much; decidedly or rather no valuable specimens. Of European fossils a fine Encrinite pr £18, Orthis very good; a Cave Bear pr £30 Gigantic lava, Pentamerus, Graptolite slate, Trilobites &c. &c. had been secured by me. The best American fossil was a Pachydictya 2'6" long pr £2.10

About noon visited the museum of the Rochester University. The geological department has quite a good collection of fossils which is practically with the mineral collection the chief attraction of the museum. The geological exhibit is miserably poor. The fossil collection is however chiefly of European species particularly so in the Neozoic and Mesozoic.

At 2.20 left for Buffalo and at 4.30 for Port Colborne, Ontario. reaching there at 5.45 P.M.

Aug. 29. Stopped at the American House Collected all day on the farms formerly belonging to Rama which are about two and one fourth miles north of Port Colborne on the eastern side of the canal.

The lowest Corniferous rock on the canal and below the Chert beds are probably to be correlated with

[illegible] since the ground
are quite abundant and silkworm
[illegible] cocoons are here also
abundant. On the [illegible]
[illegible] ocean [illegible] [illegible]
same as at Pernambuco, many
[illegible] changes in the
[illegible] which are evidently
due to the [illegible] and [illegible]
corals are here [illegible]
than at Pernambuco.

The chert [illegible] at Para are
not over 15 feet [illegible] and [illegible]
[illegible] are not [illegible]
[illegible].

Aug 28 Collected all day on the same
farm and over a little
[illegible] where Mimosa and
[illegible] are
[illegible] abundant. [illegible]
[illegible] is [illegible] [illegible] still
[illegible] temperature.

Aug. 29-95

Looked up a farm formerly belonging to Mr. Stover but now to Mr. Edmond near about two miles north and west of Port Colborne, west of the canal. Corals are here very abundant where I secured probably more than 100 Micheliniæ. The large Cyathophylloids are also here in more abundant. Platystrophia are also common but brachiopods do not appear to be common except a few valves attached to rocks.

Aug. 30-95

Collected with Mr. John McRae at the same place as yesterday and brought away in his buggy about 400 pounds of corals.

Aug. 31.

Collected in the rocks a ... Magnesian limestone at Trowell Nick in 18 with ... [illegible] ... Saw ... [illegible] ... in ... not ... marked in ... and all ... The only other rocks seen in the ... were ... Lower Lias ... Lamellibranchs.

The rocks in the Nigeria ... are not weathered out as the ... fallen are ... Ammonites ... and belemnites.

A layer ranging ... 2 to 8 ... thick of a cement ... which ... the ... and ... and this ... named ... and ... out ... a ... cement ... and sold in the Russ... [illegible] ... at 10s per ton.

One of the chiefs in ... used for a meat-... fan.

Sep. 1.

Left London in Port Colborne. In the afternoon drive to some Community farms about 2 miles west of the village. The outcrops are equivalent to those of Le Roy and immediately overlie the Rankin farm locality. Favosites canadensis and Stromatopora and Lichenalia abundant. Cap Creek Zone.

The beds below the corals beds which I identify regarded as the same as the Onondaga were seen today to contain beds of white ~~sand~~ Compact sandy becoming lime and lime in the strata below. Of the sandy layers there are probably not more than 4 to 6 feet Grading into a compact thin bedded limestone which may be the upper portion of the Waterlime or Rosh Strand. In places

the sand bar is a heavy made
of sand and limestone of the eastern
[illegible] portion of the [illegible]
[illegible] with the white sand, be-
low the [illegible] and [illegible].

Sept 2-90

Collected all day at the [illegible]
seen yesterday. Gathered considerable
material and [illegible] Corkés farm
and others to the [illegible]
[illegible] any in the [illegible]
[illegible] [illegible]
[illegible] [illegible] The [illegible]
and in the [illegible]
[illegible] [illegible]
[illegible]

[illegible] is intensely [illegible]
[illegible] [illegible]
[illegible] [illegible] in a
[illegible] [illegible].

	feet.
Erie Clay	12
Corniferous	20
Lower Helderberg	3
Salina	365
Guelph and Niagara limest	240
Niagara shale	60
Clinton limestone shale	30
Medina conglomerate	103
Medina shale	667
	1500 00

At Napoleon the following strata were passed through below the Medina which is supposed to be members of Potsdam.

Sandstone	645
Utica	150
Trenton	695
Conglomerate (Calciferous)	10
Granite.	

Mr. McRae drawing the Atlantic Railroad of the last season.

Sep. 3d

Packed all day. Collection was packed into Cattle and 2 horse loads weighing 1220 pounds. Shipped by Grand Trunk R R.

Sep. 4. Started at 7 A.M. Camp was left at Colborne at 8.30 A.M. for Cayuga where I arrived at 10.30 A.M. Camp was pitched about 1½ miles N.W. of the village where I spent the afternoon. Secured but few specimens.

The village of Cayuga lies in a valley and rests on Salina Shale. Rotary 200 feet. The country in all directions is level and the scenery is tame. The Canadian Pacific R.R. comes in at about 1/4

miles north of Cayuga.
Rained hard during the night.

Sep. 5th

Started out in the east with a buggy
for a locality about six miles
east of Cayuga. On the road met
Miss Kay a daughter of A. Gow.
She said her father collected
on Fleming and Andyson farm.
On reaching there found the
locality to be the Onondaga sand-
stone. Concluded to stay over
night and put up at Mr. David
Flemings House

Sep. 6th

Collected in the morning in the
Onondaga and in the afternoon in
the Corniferous of which there is
not very much.

Sep. 7 Collected in the morning on the [illegible] and in the afternoon on the Coby [illegible].

The [illegible] formation is well exposed along the township line road north of the farm of Edward Flemming and Anderson. The sandstone is abundantly ripple marked and here it is not more than sixty feet above the [illegible] distance to the last preceding the formation is [illegible] and the rock more friable. It overlies the Salina group in which [illegible] are frequent. In some places the Salina is marked bedded and in the shales often glazed. The contact between the Salina and Niagara is well [illegible] and while there is not much [illegible] conformity the appearance of a shift or since the [illegible] surface of the Salina is uneven

and fills cracks of the Salina.

In some places the uppermost beds of the Onondaga are thin bedded with but few fossils but occasionally a Corniferous coral is seen. Otherwise the Corniferous characterizes.

The Onondaga formation is lithologically and faunally quite distinct from the Corniferous. Some of the fossils in Hall's collection which have said to be from the Onondaga I believe to be from the Corniferous. It would be necessary to see Hall's collection and determine which are the Onondaga fossils.

In the gorge below Lockport the greater part of the Onondaga is shown (16 feet). Following up from this quarry it is seen that the Onondaga occurs in domes and in sinks of the depressions as thin bedded shaly limestone occurs having nearly a coral and nine often bryozoa or tribolite

The bryozoa in these depressions or pockets of shallow are far more abundant than elsewhere where the rock is far more chalky.

Of Cornifrons fossils I did not see many and did not search but little.

At the locality 1/2 mile N.W. of Cacuya, where described on Sept. 6, does not show any Cretaceous. There is an escarpment here of rock on the Ipory plains but Paleozoic rock on the farm which the upper beds are Cornifrons.

Sep. 8

Sunday. No collecting
Rev. David Jones [illegible] ill.

Sep. 9. [illegible] Packed up and shipped one barrel and one box of fossils. Left Cayuga by carriage at 10.30 a M. arriving at Ithaca at noon. In the afternoon it rained & I ran on but collected at a quarry about ½ mile west of the R.R. Station. Couch as equal of the Carniferous. In this quarry is well exposed about ten feet of the Hamilton beds including the Tichenor beds immediately above.

Sep. 10

Spent the morning in the same quarry as yesterday. Tried hard to find a Calymene but was only successful to get a fragment.

In the afternoon went east on the Michigan Central about

one half mile where I secured a number of large corals. These are the Fantasides [illegible] above the Miocene.

On a field to the [illegible] the track there is a splint bluff and a rock pile shaped that way from the Salina. In the pile I found critical [illegible] fragments of trilobites which [illegible] must be near akin to the species now living there.

Secured from Mr. J. G. Howard 2 Calymene and one Phillipsastrea for which I am to send him Silurian fossils and Grandeville minerals. Lend him my pamphlet [illegible] Collect and Prepare fossils.

Feb 11 Started at the American House. Packed my barrel and box [illegible] on the morning and left Haynesville at 10:18 for

Hamilton where I arrived at noon. In the afternoon called at Col C.C. Grant's house where I was told by one of his daughters that he was stopping at his country home. Grant had left for me from Small Arms, a Lee Enfield rifle a specimen of which was to be photographed.

Sept. 12

Left at 9.15 for Toronto to see the Minister and to look over the records at the University and Education Office.

[illegible]

[illegible]

Montreal

Dec. 13 Stopped at the Grand Trunk
Visited the Parliament Buildings
and the Tomb. Up until the
former, there is no museum
in which are many relics of the
Province. At the latter there
is a Collection of Fossils in
the Geological Department but
none of any Importance or
interest. The Tomb is plain and
contains no Statue.

For Civil Engineering in the
Middle Ages in Canadian Journ. N. Ser.
Vol. - (1862) pp. 190-193

Miscellaneous Papers see
same Journal Vol. IV N. Ser. p. 38
-50.

The Museum of the
Canadian Institute is well filled with
specimens of Fossils. The
Mineralogical Collection is also well

the paleontological collection' owner
[illegible] was recently employed
[illegible] geologist.

Went to the depot at the house
of Mr Townsend. Obtained quite a
collection of Canadian fossils. Left
[illegible] at 6 o'clock. This collection
is situated in Smith's Mountain
and Clinton also [illegible]. Engaged
to furnish a collection of at
least one hundred Smith's species for
fifty dollars which I accepted and
on which I paid him $20. He will
collect for the museum at Boston
[illegible] which includes cold or stone
when the specimens are not [illegible] for
$2.50 per hundred dollars per month and
traveling expenses.

We had a rousing supper at
a large [illegible] where we
[illegible]. He was offered $100
and declined that sum since
could get more.

Send Townsend some [illegible].

Sept. 4th

Sept. 5th

Sep. 16

Collected all day in the Niagara in the quarries on the top of the "Mountain" back of Hamilton. The graptolites are all from the Niagara and from beds above the Niagara shale. The great majority are from the Chert beds and the "Blue building limestone" immediately below also yield some. They are difficult to get and can only be secured when the quarries are in operation. Purchased some specimens of the men in the quarries.

Later in the day collected on farms on the top of the mountain among the Chert pebbles. The fossils are the characteristic Niagara species but the preservation is not good. The highest Chert beds yield sponges and these are usually covered with flint.

Visited the Hamilton Association museum and borrowed one Dictyonema. Also called on Mr. A E Dalton and examined his Niagara sponges.

to prepare some of this sponge to show the specular light preparing a surface then etching with hydrochloric acid. Then the specules show be seen in plaster of paris and repolished. Some of this material showed the structure quite plainly.

Sep. 17.

Spent the day at Brimstone Hill 18 miles south of Hamilton. Collected in the Niagara shales which weather down more at this place than around Hamilton. Gathered some good Orthis Hybrea Laelaps from the Clinton. The beds with this organism are about two feet thick and down through this rock the edges of the beds are marked with concentric markings which have some connection with the Orthis Hybrea. I have gathered some of this. It would seem that either Orthis Hybrea is a

plant which grows series upon series on it in a burrow. The width of Arthrophycus gracile some are quite narrow and others have considerable width.

In the Arajara shale I secured a Lyriocrinus, Eucalyptocrinus and two Stephanocrinus besides a number of bryozoa plates.

Met Dr. J. Pettit who has a fine collection of Arajara cimoids. He intends to give them away to the village mechanical school.

Stopped over night at the summer residence of Col. Grant at Brisbane.

Sep. 18.

Collected all day in the Clinton along the mountain back of Hamilton. Secured a good lot of the characteristic fossils.

In the evening called at Col. Grant home. He gave me a large lot of Silurian

fossils. In return send him a copy of Miller's catalogue and other reports. Also some Mississippi river Unios and Conodontes. To the Hamilton Association send in exchange for the graptolites we have some Cretaceous fossils and some Tertiary fossils.

Sep. 19

Packed three boxes and shipped by Grand Trunk R.R. One box is nearly filled with graptolites. Could get no train for Thedford until to-morrow morning at 9.15 so had to wait since it is raining.

Sent 200 old papers to Thedford purchased of the Hamilton Herald.

Wrote to Spencer that the museum would not purchase his collection of Hamilton graptolites.

Sep 20

Left at 9.40 A. M. for Thedford arriving there at 2 P.M. Spent the afternoon in the railroad cut 3/4 mile east of the village where I picked up at least 100 lb. material.

The S. ammonite beds appear to be 10 or 12 feet thick above which the chalk occurs but more rarely. The lower 4 or 5 feet of the S. ammonite beds are barren. Above the S. ammonite beds there are about ten feet more in which fossils are not abundant. The common species are L. lama, A. dentatus, H. ammonius, S. macrum and Callopoma gastil common.

Sep. 21

Spent the greater part of the day in the rail road cut. Collected several thousand D. immersata.

For an hour in the morning visited the quarry in the field to the north of the rail road cut about ½ mile east of the turnpike. Horizon in the coral beds.

In the afternoon spent two hours at a place on the hill overlooking the quarry in the field. Saw in the neighborhood of Hamilton beds, and has A. spiriferoides, Atrypa, L. lama and S. macrum.

Sep. 22

Sunday. Spent the day with Ser Kemp and Mc Kinnon at Bart Firth Wells. Paid $5 with for the use of horses. Spent an hour in forenoon at the Hamilton. Collected only small things since I will go back to spend several days.

Sunday 3 mile north of Medford. Gathered quite a lot of corals. In the afternoon examined the collection of Mr Lanagahan. He gave me some of the rare fossils for which he has to send to some Richmond and Crawfordsville friends.

In the evening called on Mr. Kennedy and examined his collection. He gave me a number of coral which among them a fine Arthrocantus which I have to send to some Crawfordsville friends. Found him also a number of fine coral fossils.

For Mr. Kennedy I have some of the Cincinnati fossils in addition to those mentioned above.

Sep. 24

Collected today in the same creek as yesterday. Spent two hours with Rev Hector Currie in looking over his collection. He gave me a few things some of which have any cost value. Lent him a small collection of Cincinnati fossils. He would also like to have a paleontological hammer. Also spent one hour in a small abandoned quarry a short distance to the north of the Sacramento R.R. cut.

Mr. Kinnon would like some general book for beginner in paleontology. If possible send him Nicholson's work on the Thecodont fossils.

Sept. 21st

Met the Sea at Hill no 4, Rock Glen and Boyt Little, with with Rev Lyell. Pebbles Talus are at the falls of small creek flowing into the Cuyahoga River.

Left the train at the Queen Station at Cuyahoga.

Orthoceratites common

Succeeded in getting a number of species as common to the Hudson River and the Richford Hamilton. Phacops rana, Cyrtina hamiltonensis, Chonetes setulosa and Atrypa reticularis are certainly common to both.

The Bactroids occur in the coral zone. The crinoids with the Fragilis and Meniscodactylus occur in the stiff shale, below the coral zone, with the long-armed Dimerocrinites, Taxocrinus Lobatus and Dolatocrinus in the underlying with Dimerocrinites and Cyathocrinus. Dolatocrinus and Glyptocrinus form a zone over the

Siliceous beds although the fossils also occur in a crushed condition fully established its highest occurrence below a limestone in the coal zone the Fayetteville sandstone rock.

Sept. 26

Rained all night and therefore could not go to Bartlett Mills until noon. Collected quite a lot of corals and a Bolaticrinus.

Packed at night

Sept. 27

Spent the entire day at Bartlett Mills. Gathered another large lot of corals and a very large mass of Fayetteville sandstone. Of the rare fossils found three Brachiopods, one Talarocrinus and two Echinoderms and a number of small crinoidized fossils.

Packed at night

Sept. 28

Started at 8 A.M. with fossils from Cudmore on Fredgord Moran [illegible] North Reading then [illegible] Gate.

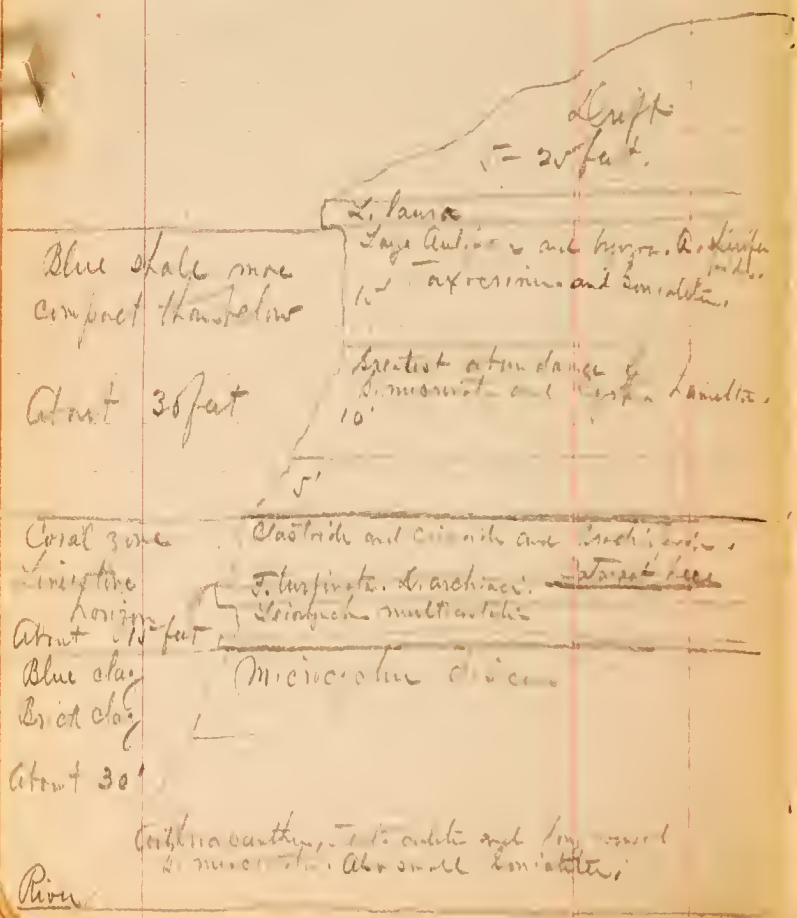
Packed up all of the collection and shipped in the afternoon. The lot contains 2 barrels and one box weighing 940 pounds.

While [illegible] Arthur called and asked me to see his collection. Later called and was surprised to see the size of the collection. He [illegible] some of the [illegible] specimens, [illegible] 150 specimens. On return [illegible] with some [illegible] and two [illegible] and the [illegible] [illegible] to examine the collection since I am convinced that [illegible] will [illegible]

All in all I am well pleased with my collection and buying at Bedford. I failed to get a good collection before leaving and succeeded in securing more than I calculated.

Paid to Kinnahan one dollar to have the best locality, mineral and everything pointed out to me. Promised that he and the other collectors would send a good return for their investment.

position of rocks in the Anx
gate in the ravine, Carlton
Mills, Ontario. The same is
also true for Thedford, Ont.



Sep. 29.

Sunday. Spent the morning writing letters. In the afternoon Mr. Kernahan took me to an outcrop of Hamilton limestone about ten miles N.-W. of Thedford on Lake Huron at Stokes Point. About five feet of limestone is here exposed. It rained much of the time with a stiff cold wind blowing from the lake so that we did not look around much. Fossils on the weather beaten rocks are not well shown and appear to be rare. I noticed a large Fistulipora, Stromatopora?, Spirifer mucronata in abundance S. granulifera, Strophodonta nacrea and S. demissa. Also apparently a Diphyphyllum with smaller coralites than in D. archiaci. Also Orthis penelope common.

These beds because of the proximity of the Genessee "Black Shale" lead me to believe them higher than any at Thedford.

30

Oct. 2

Spent the day at Partridge Point which is said to be six miles south of Alpena but I do not believe it is more than four along the shore. On the north side of the point ~~and~~ near the ~~fishermans~~ Mr. McCall's house the Hamilton beds come to the surface. Their thickness here is not more than a foot or two all above being loose waterworn rock thrown up by the lake surf. At this place I secured a number of fine brozoa slabs and ten specimens of Dolatocrinus. Brachiopods are rare. The only recognizable corals are Favosites placenta, a Diphyphyllum and Cystiphyllum. See Oct. 9th.

Also picked up three Codasters and one Eucleocrinus.

At Stoney Point north of Part. Point the rocks are too much worn for me

to take any of the fossils. The fossils seem to be of another horizon since all are corals and abundantly a Stromatopora of which I have several pieces. Later I saw that these are the Thunder Bay Island and Alpena quarry beds.

Oct. 3

Spent the day at a locality five miles up the Thunder Bay River from Alpena. The beds seen are not more than ten feet thick, five of which abound in brachiopods and monticuliporoid corals. Spirifer granuliferus is the most abundant fossil. Typical S. mucronata do not occur here but a form of S. is found harmonizing with the long and narrow S. mucronata found at Rockford. It may be that these beds are to be correlated with the lowest zone at Rockford.

Oct. 4.

Spent the day in the quarries to the south of Alpena on the road to Long Lake. In places the beds are regular in deposition and thick-bedded. In other places the beds rise rapidly in domes and here the rocks are crowded with Acervularia, Stromatopora and also other corals. In these beds I saw quite a number of Dolatocrinus. I can account for these domes only by supposing that the corals have furnished the material for the domes and that here the deposition was far more rapid than where the corals did not occur so richly. In places on or near these domes dark bituminous beds occur abounding in a small Favosites and Acervularia. These beds are probably local.

Where the beds are regularly bedded in one place I saw two to three feet of shale or shaly limestone overlying it.

In other places this shale has been removed by the glaciers since were absent the rock is striated and worked by drift. In this shale I found nine Dalatocrinus and the bryozoa remind of the Partridge Point ones. This then proves that the Partridge Point beds also occur in Phelps quarry overlying the Ascovulagia beds. It is below these that the Spirifer granuliferus beds of Thunder Bay river occur. The following is an ideal section.

	Partridge Point beds	13 feet
See Oct. 9.	A Partridge Point beds (Lower)	seen 3 feet.
T. B. I. section goes in here.	B Phelps quarry. Ascovulagia beds. Here regular beds, about 7 ft thick, in the dome and stromatopora it is not seen more than 20 feet thick.	
	Stratum not known. Probably but a few feet.	
	C. Thunder Bay river shale beds with S. granuliferus seen about 5 feet.	
	This bedded limestone with shale partings Black. Impressions. seen about 7 feet.	

Rim

In B I saw two S. granulifera and collected a few of the same Strophocodontes occuring in C.

Oct. 5.

Got up at 5:30 A.M. and took a fast fish boat on its rounds of Thunder Bay to the various fishing places. In passing Partridge Point saw that I had not collected at the best exposures. Will go back to this place. Out from the Point (but a short distance) is Sulphur Island all of the Black Shale or Genesee. First stop was at Scare Crow Island at the southern end of the Bay. Then sailed directly north to North Point. Here I learned by telephone that the life saving crew of Thunder Bay Island could not come to the point for me before Sunday afternoon & all I could do was to go

back to Alpena. On the way in the Thunder Bay Island the tug overtook us and later learned that in the morning should go with the tug to Sturgeon Point and from there to the Island.

Oct. 6. Sunday

Got up at 5:30 A.M. to take the tug but by some mistake of the hotel the call was set one hour too early. The tug steamed direct for the Island at 11 A.M reaching there at 1 P.M.

The [illegible] visible around the island which are [illegible] of limestone layer made up of Stromatopora and Acervularia. [illegible] is an abundance of [illegible] and are worn [illegible] the waves as to make them of little value.

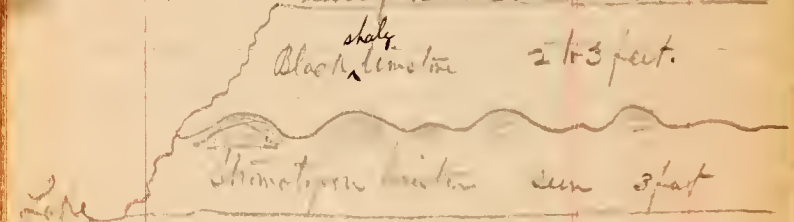
Captain Stevens the keeper of T. B. Island is a fine gentleman

and has his station in good shape.
He entertains well and is one
of all good fellows.

Oct.

I left the [illegible] mainly
on the eastern side of the island since
there the rocks are best exposed and
are least worn. The strike [illegible]
can also be easily seen. The dip
is E. Two sets of veins cross the
limestone and in each
bituminous [illegible] limestone a
Spirifer, Productella, Pentamerella
Leptobolus and many [illegible]
Among many [illegible] of this
zone are preserved. The [illegible]
below is the Clinton zone limestone
with an abundance of Stromatopora.
The zones are the limestone as
denied and can be traced for
The dome are sometimes [illegible] a mile
feet high and twelve perhaps of another

one mass of stromatopora. In breaking these masses away I usually trace tubular or rifled tubes by the appearance they have given off the stromatopora wall even in their tracks. These masses are very rare & not to be found adjoining upon rock and upon which are often found growing Favosites. Even these stones lie the Black limestone without the stromatopora.



The Thunder Bay Island rocks are the same as those in Phelps quarry.

Oct 8

The storm [illegible]

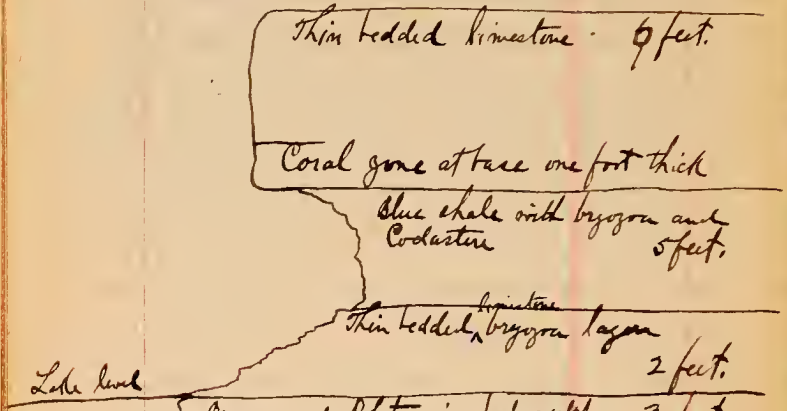
Considerable snow fell yesterday in Alpena and but little on the island. It snowed today off and on on the island.

Oct. 9

The storm let down considerable during the night so that this morning the Thunder Bay Island tug was able to go to Alpena which we reached at 10.30 A.M. Packed the two boxes until noon.

In the afternoon started for Partridge Point. I found that east of Mr. Mac Cally's house the Hamillan shows about fourteen feet of exposure. I picked up 26 Cadastick, 5

Nucleocrinus, 2 Dolatocrinus and
many bryozoa and a few corals.
The following is a section of these
beds.


Thin bedded limestone. 6 feet.
Coral zone at base one foot thick
Blue shale with bryozoa and Codaster 5 feet.
Thin bedded limestone bryozoa layer 2 feet.
Lake level
Bryozoa and Dolatocrinus 3 feet.

The two lower zones abound in bryozoa
but are most abundant in the blue shale
being almost entirely Fenestellidae. The
Codasters are very abundant in the blue
shale with scarce Nucleocrinus and
rarely a Dolatocrinus. Corals do not
abound in this zone but immediately above
at the base of the limestone zone Favosites
placenta, Cystiphyllum, Heliophyllum and
other corals are abundant but soon
disappear upward. The corals known

are here not nearly so abundant as at Bedford, Ontario or in Newford. Heliophyllum is rare and Favosites placenta attains to a larger growth than at any other place. Some I saw were nearly one foot in diameter and six or eight inches thick a feature nowhere else observed.

In the upper zone I saw one valve of Sp. granuliferus and an abundance of a Fistulipora. This zone is possibly to be correlated with the stony Portage in Ontario.

Oct. 10.

Finished packing the two boxes which were shipped by Detroit & Mackinac R.R. Left at 9.20 A.M. for Petoskey by way of Alger since no boat is at Land. for around the lake. Left Alger at 3.12 arriving in Mackinac at 7.20

P.M. where I had supper. At 9 P.M. left for Petoskey arriving there at 10.20 P.M.

Oct. 11.

Spent the morning in the railroad cutting and quarries to the N.E. of the town and on the lake front. These are the Stromatopora beds of Winchell. These corals are here very abundant and well preserved other fossils are rare. None of the Stromatoporas attain the size of Thunder Bay Island. Are these beds the equivalent of those on T.B.I.?

In the afternoon walked down the track of the Chicago and West Michigan R.R. to the quarry about 2½ miles S.W. of Petoskey. This is Winchells Coral locality. Collected a number of Favosites and a few other things. Later walked along

the lake front 2½ miles to Belle Landing where the railroad has a quarry. Fossils are very scarce here and got nothing. Walked back to Petoskey along the railroad track. About one-half mile s.w. of the quarries the R.R. cuts through two small hills where I secured a number of Stropheodonta and other fossils. These beds are probably twenty feet thick and have a number of black shaly bands between the limestone. This zone is probably Winchell's Hydrodictyon beds and overlies the Coral zone in the quarries, the Acervularia beds. Between these two zones there is a space of ten feet I did not see. The top of the quarry has a clay zone of two or more feet thick in which Favosites are abundant but other fossils are scarce. From this zone down to the lake 20 to 25 feet the pre-

raising fossils is Acervularia davidsonii along with Stromatopora.

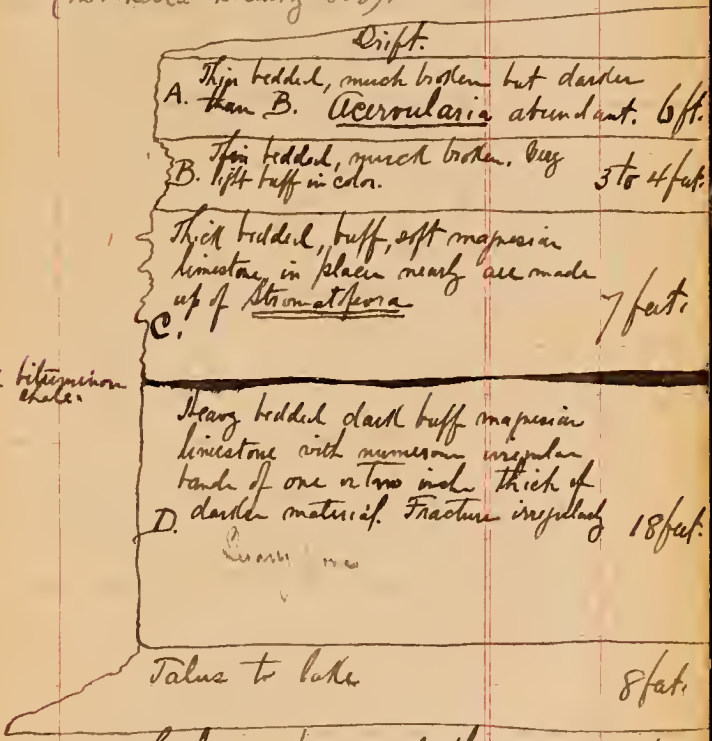
Oct. 12.

Walked out the R.R. of the Grand Rapids and Indiana R.R. to where it crosses Bilsell Bear Creek returning on the other side to the lake road but found nothing. Continued along the lake road to the quarries visited yesterday. Collected a few more of the fossils and then searched the railroad cuts to the S.W. about one half mile. Here found quite a number of Streptelasma and a Favosites occurring rarely in the quarry. These fossils are mapped separately and call attention to these notes.

In the afternoon packed up and shipped the fossils in one box per G. R. and I. 100 pounds.

Oct. 13

Revisited in the morning the quarries and rail road cutting just at the northern end of Petaluma. The following is what I saw (Steinhelles Localities 806).


Drift.
A. Thin bedded, much broken but darker than B. Acervularia abundant. 6 ft.
B. Thin bedded, much broken. Buff light buff in color. 3 to 4 feet.
Thick bedded, buff, soft magnesian limestone, in places nearly all made up of Stromatopora
C. 7 feet.
Hard bituminous shale.
Heavy bedded dark buff magnesian limestone with numerous irregular bands of one or two inches thick of dark colored material. Fracture irregular
D. 18 feet.
Talus to lake
8 feet.

The lower portion of this section is taken from the south eastern end of the escarpment in the quarry and the zone A along the middle part on the track of the L and P. M.

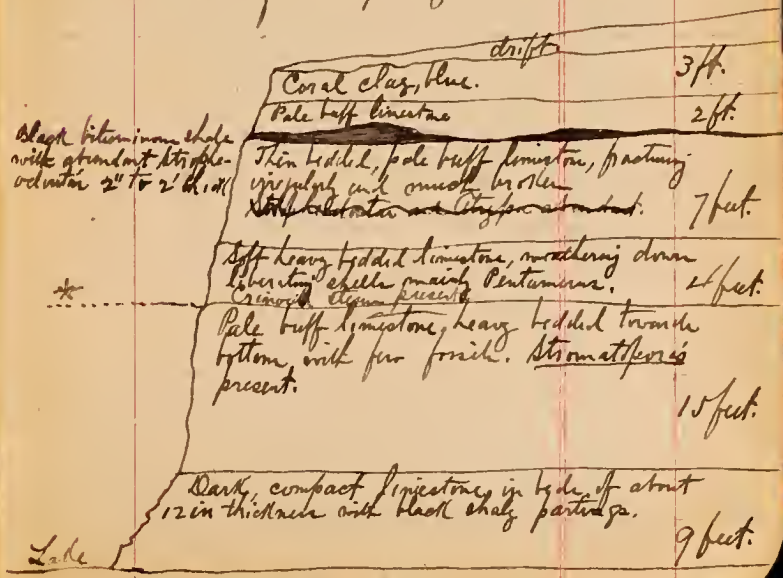
I can see no Stromatopora in zone D either in the southern or northern lime quarries but along the middle of the escarpment on the C. St. M. R.R. they abound in this zone through a thickness of probably 13 feet. Zone C is the real Stromatopora horizon being most abundant here but even in this zone at the southern end of the cut they are rare or absent. Zones C and D towards the north are separated by from 1 to 4 inches of a black bituminous shale and here zone D has other black shale handy.

At the very top of the cutting along the middle in zone A can be seen several large Receptaculas which I believe to be the base of the Receptaculites beds of Windsor.

The dip is quite irregular. In the S. E. quarry it is towards the N. W. quarry. while in the upper end of the latter the strata again rise. It is probably these undulations and the rapid lithological change which the Hamilton undergoes

which lead Winchell to interpolate the Trenton Septaria beds between the Stromatopora and Receptaculites beds. The Receptaculites and Trenton Septaria beds are identical. This afternoon I will go down the lake 3 miles to examine the rail road cuts and the quarry there.

In the afternoon walked down to the quarry on the C. St. M. R.R. about three miles west. The following is a section of the quarry.


drift.
Coral clay, blue. 3 ft.
Pale buff limestone 2 ft.
Black bituminous shale with abundant Strophodonta 2" to 2' thick
Thin bedded, pale buff limestone, fracturing irregularly and conchoidally 7 feet.
Soft heavy bedded limestone, weathering down Echinoencrinus shells mainly Pentamerus. Crinoids Agnostus present. 2 feet.
Pale buff limestone, heavy bedded towards bottom, with fine finish. Stromatopora present. 15 feet.
Dark, compact limestone in beds of about 12 in thickness with black shaly partings. 9 feet.
Lake

Acervularia's occur throughout these layers as well rarely Stromatopora, The latter being most abundant in the 15 foot gorge. The well preserved corals come from the blue coral clay. The yellowish shells (Pentamerus) come from the four foot gorge and as well the semisilicious corals from the rail-road cut.

The dip is strongly towards the lake, and towards Petoskey (N.E.) which continues the strata above the dotted line ^ into the two cuts ½ and ¼ mile west on the C. & K. M. R.R. From these two cuts, I have first called attention to these orbs. Towards the west end of the second cut the strata dip in the opposite direction (S.W.) from that of the eastern end. The coral clay I did not observe here.

From these facts it is evident that the Hamilton occurs along Little Traverse Bay in low undulations and that the Acervularia

beds overlie the Stromatopora beds. Further that the Tetradolopteum beds are the same as the Acervularia beds since Stylodictya occur throughout the Acervularia zone.

Left Petoskey for Cincinnati at 10.30 P.M.

Oct 14

Arrived in Grand Rapids at 6.20 P.M. left for Cincinnati at 11.2- P.M. Arriving there at 7.20 A.M.

Oct 15

Spent the day visiting Campbell, Ky and the City

Oct 16

Spent the day at Ulrich house

Oct 17

Started for Hagerville O. at 1.52 P.M. arriving there at 3.40

Saw Mr. Davis for hour, [illegible] and spoke generally of fossils and collecting with him. Stopped at the Land Office.

Oct. 18.

[illegible] at 7:30 A.M. and began at once to work on the fossils. At first I was afraid that I should not be able in the time to study the museum collections, [illegible] to be [illegible] on the afternoon [illegible] all the [illegible] 62 specimens into the [illegible] and [illegible].

In the [illegible] I [illegible] beautiful [illegible] which made a [illegible] in [illegible] [illegible]. Dinosaur had been [illegible] in trench on a [illegible] collection [illegible].

and to be known as the Harris collection. In the evening Mr. Harris repeated to Mr. Aldrich that he had given his collection of fossils to the U.S. Nat. Mus.

Oct. 19

Collected at various places during the day with Mr. Aldrich and Mr. Anderson. Found little of any value. Dan Harris in the evening and all the fossils he secured, sent to the depot and on to Ft. Worth.

Arrived at mission house about eleven P.M.

Oct. 20

Sign Mr. Aldrich's collection which contains ryans good Lam We will sell this collection for £20 or exchange for £12 will buy it. Had dinner at Mr. Aldrich and

Supper at Lanfels. Arrived at my
[illegible] at 12:30 P.M.

21

[illegible] left [illegible] in
the Portalo Coach Visited Mr. Cecil.

Oct 22 Left Quirimata at 12.01 P.M.
Arrived in [illegible] at
at 7 A.M.

August Expenses.

" 12	Ticket to Buffalo N.Y.	11	.20
" 12	Sleeper " "	2	.50
" 13	Breakfast on train		.60
" 13	Porter		.25
" 13	Dinner at Buffalo		.50
" 13	Buffalo to Derby & ret. to Ath. spr.		.75
" 13	Supper at "		.25
" 16	2 boxes		.20
" 17	Board & lodging at Athol spr. (V).	2	.50
" 17	Athol Springs to Buffalo		.25
" 17	Street Car in Buffalo to quarries		.20
" 17	One Eurypterus at quarry		.25
" 19	Hotel at Buffalo (Bronzel) (V).	5	.00
" 19	Street Car to Williamsville		.40
" 19	Lunch at "		.25
" 19	Supper at Buffalo		.50
" 19	Buffalo to LeRoy, N.Y.		.97
" 20	For labor, payed to Howell (V).	2	.50
" 20	One Dictyonema (Porteage)		.25
" 24	4 box @10¢ & 3 bbls @20¢	1	.00
" 24	Paper & excelsior		.40
" 24	Transportation to Mr. Rogers (V).	3	.50
" 24	Lampton House, 4 3/4 d. @ 150 (V).	7	.10

137

" 24	R.R. fare to Rochester N.Y.	.75
" 26	Board & lodging at " (V)	4,00
" 26	Rochester to Buffalo.	1,38
" 26	Buffalo to Port Colborne	.90
" 27	Fossils (Porteage)	.35
" 31	Port Colborne to Thorold	.95
		#49.65

Sept 2	Paper for packing	.40
" 3	" " " & excelsior	.35
" 3	4 bbls & 2 boxes for packing	.90
" 4	Board & lodging from supper Aug 3d to Breakfast Sept 4 & haulings (V).	7.75
" 4	Port Colborne to Cayuga	1.00
" 7	Board & lodging 2¼ dys. & hauling to Cayuga paid to Mr David Fleming (V)	2,50
" 9	Campbell House for 3 dys. @ 1.50 (V)	4.50
" 9	Transportation to Mr. Wigg (V).	3,50
" 9	1 bbl. & 1 box for packing.	.25
" 10	Hauling of fossils from country.	.75
" 11	1 bbl & 2 boxes	.35
" 11	Porterage	.25
" 11	Hotel. Sans on House (V)	2,00
" 11	Hagueville to Hamilton	.80

" 11	2 lbs. nails + tacks		.20
" 12	1 day Hotel at Hamilton	1	.00
" 12	Hamilton to Toronto + Ret	1	.20
" 12	Dinner in Toronto		.50
" 14	Osgood House in "	3	.25
" 16	Paid to quarrymen for fossils.		.50
" 16	Street car fare		.20
" 17	Repairing of bag.		.10
" 17	Hamilton to Grimsby + Return		.50
" 18	Street car in Hamilton		.20
" 19	3 boxes .20 200 papers .40 Nails .05		.65
			$3.25
" 19	Hauling of boxes to depot.		.25
" 20	Board + lodging at Hamilton 5 3/4 d.	5	.75
" 20	Hamilton to Thedford	3	.25
" 20	Dinner at Stratford		.50
" 21	Express on papers from Hamilton		.40
" 21	For fossils.	1	.00
" 22	" use of horse to Arkona		.50
" 25	5 dy. board at Holwell House Thedford	5	.00
" 28	Queens Hotel at Arkona 2 3/4 days		
" 28	Carriage to Bartletts Mill + return twice	5	.00
" 28	" " Thedford (7 miles)		

"	28	2 bbls .40¢ + 4 boxes .20¢	.60
"	28	Hauling of fossils to depot	.35
"	28	Paid for labor to Geo. Kernahan	1.00
"	28	" " fossils to boy.	.25
"	30	" " Holwell House for d board Thedford	2.00
"	30	8-3¢ postage stamps	.24
"	30	R.R. fare from Thedford to Port Huron	1.05
"	30	" " " Port Huron to Alpena	6.71
"	30	Dinner at " " Mich.	.50
"	30	Supper " Bay City "	.50
Oct.	1	Hotel " " " "	1.00
"	9	Board at Thunder Bay Island. 3 dys @ 1.00	3.00
"	9	2 boxes .05 packing paper .20	.30
"	10	Hotel at Alpena Mich. 5¾ dys @ 1.00	5.75
"	10	Tacks .05 Porterage .25	.30
"	10	R.R. to Petoskey (to Alpena 3.15; to Macmac City 4.25	7.40
"	10	Dinner at E. Tawas	.50
			$136.40
"	10	Supper at Macinac City	.50
"	10	Macinac City to Petoskey	1.05
"	12	Hauling of box to depot	.10
"	13	Board & lodging at Petoskey 3d @ 1.50	4.50

" 13	R.R. to Cincinnati over G.R.&I.	15.00
" 13	Sleeper to Grand Rapids	2.00
" 14	Breakfast at " "	.50
" 14	Dinner at Fort Wayne, Ind.	.50
" 14	Supper at Cincinnati	.35
" 17	R.R. to Waynesville & ret. to "	2.70
~~" 18~~	~~Fossil from Anderson~~	1.65
" 18	Boxes .30 twine .10 cotton .30	.70
" 18	Board & lodging 2 days. @ 1.50	3.00
" 22	R.R. to Cincinnati	14.00
" 22	Sleeper to Washington	3.00
" 22	Dinner on car 1.00 Supper .25	1.25
" 23	Porterage	.25
		185.80

Boxes Shipped

Aug 17 From Cobol Springs (2) boxes of Sapillon fossils. The smaller box has the single valves and a slab from the uppermost layers, and about 15 feet below the true Geneva shale.

Aug. 17 From Buffalo by mail two packs of Waterlime fossils.

Aug. 20 From Le Roy two packs with Hicty-onema by mail.

" 24 From Le Roy per N.J.L.E. & So R.R. three bbls of Corniferous corals and four boxes of fossils. These have the Williamsville N.J. corals the Le Roy small corals and the Hamilton fossils from Mr. Hills farm.

3 bbls. 2 box Cornif. 2 box Hamilton

Sep. 3 From Port Colborne Ontario four barrels and 2 boxes weighing 1220 pounds. Shipped by Grand Trunk R.R.

" 9 From Cayuga one barrel and one box by Grand Trunk R.R.

1 bbl. Corals. 1 box cor.

Sep. 11 From Hagersville one barrel and 2 boxes. By Grand Trunk R.R.

Sep. 19 From Hamilton, Ontario 3 boxes. By Grand Trunk R.R. 300 pounds.

Sep. 28 From Bedford Ontario 2 barrels and 4 boxes 940 pounds By Grand Trunk via Buffalo.

Oct 10. 2 Boxes shipped from Alpena Mich. 170 pounds. By D & M. R.R.

" 12 1 Box from Petoskey Mich., per B.R. and L. 100 pounds.

Results.
21 boxes, 11 barrels. 2 pkgs.
About. 4800 pounds.

Oct. 19 Shipped [illegible] 3 boxes of stuff taken from Hagersville [illegible] Wasin collection.

Star-fishes from the Agassiz collection.

Pedicellaster incomptus	1	
Tamiaster elegans (type)	1	Stat. 30
Palasterina subbrachiata (type)	1	
" granulosa	1	
" simplex	1	
" exsculptata (type)	1	
Tamiaster unbraciatus	1	
Palasterina Harrisii (type)	4	
" Miamiensis	3	Stats
" " (type)	1	
" marginicula (type)	2	
Anoplaster flexilis Grandmouth I. }	12	
Palasterina no 1	2	
" Grandmouth I.	1	type
Stimaster [illegible] small	1	
" " large	1	
Palasterina no 2 large	1	
" no 3 (2 arms)	1	
Tamiaster? undescribed	1	
Palasterina [illegible]	1	
" " (Florida)	1	

Palaeaster	no. 4	1
"	no. 5	1
"	no. 6	1
Taeniaster	no. 1	1
Palaeaster	no 7	1
Stanford Crawfordsville		1
Undetermined		5
Fragments		2 trays
		53 & 6 2 trays

Shale slab with Starfishes delicate 1. Brit. with Caducibrachiate radii. 9

Simon Kutz Jun for Albert
£ 6.0.00
Paupel owes me 13.3.5

30

25 NW
8
200
50 NNW
150. 3 m.
75
10.22

J. P. Petit

Petit

Bruinsburg

Ohio

Limestone 12 inches

2. Lamellibranch 15 feet.

10 feet

Limestone 3 feet

5'

Coral beds — Heliophyllum multicostatum Hall, Zaphrentis sp. abundant

Limestone layers

Favosites turbinata

Blue clay bearing [illegible] and Crinoids and Microcyclus

about 30 feet

River

6 J 8. 6 W

Bruinsburg.